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Section 7

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7. Air Monitoring Investigations

7.1 General

Beginning in 1991, a number of studies have been conducted within the Housatonic River environs to characterize ambient air PCB concentrations. The purpose of this section is to summarize the sampling and analysis activities and results regarding airborne PCB concentrations in and around the Housatonic River, with particular emphasis on the area between the Confluence and Woods Pond.

7.2 Supplemental Phase II/RFI Air Monitoring Activities (1995)

Ambient air monitoring for PCBs was conducted as part of the Supplemental Phase II/RFI activities from May to August 1995, resulting in eight sampling events. The air sampling was conducted as part of ongoing investigations of the Housatonic River and Silver Lake pursuant to the 1990 ACO (executed by GE and MDEP) and GE's prior RCRA Permit (under the supervision of MDEP and EPA). The objectives of the 1995 ambient air monitoring program were: 1) to obtain valid and representative ambient air levels of PCBs at locations near Silver Lake, Woods Pond, and the Housatonic riverbank between the GE facility and the Confluence; and 2) to evaluate the validity of low-volume sampling methods and their comparability to high-volume sampling methods (Zorex Environmental Engineers and Berkshire Environmental Consultants, 1996). These air monitoring activities were conducted at the station on the eastern shore of Silver Lake, two locations on the Housatonic River -- one upstream of the Confluence (Fred Garner Park) and one at Woods Pond -- and a background station (Berkshire Community College).

During the 1995 ambient air monitoring program, high-volume samplers established at the breathing zone (high elevation) were employed at all stations, while low-volume samplers at both high and low elevation were also used at the Silver Lake station. The sampling program consisted of eight high-volume sampling events and three low-volume sampling events. A total of 32 discrete high-volume samples (not including co-located or duplicate samples) and six discrete low-volume samples were collected. The details of this air monitoring program and a presentation and evaluation of the results were provided in a

report prepared by Zorex Environmental Engineers and Berkshire Environmental Consultants (1996) titled *Ambient Air Monitoring for PCB: May 10, 1995 through August 24, 1995*. The conclusions of that report relevant to the Rest of River area are as follows:

- The mean high-volume spring/summer PCB concentrations along the Housatonic River at Fred Garner Park and Woods Pond measured 0.0055 $\mu g/m^3$ and 0.0033 $\mu g/m^3$, respectively.
- The mean ambient PCB concentration at the background location (Berkshire Community College) was 0.0012 $\mu g/m^3$.
- Temperature appears to have some impact on the variation in ambient PCB concentrations. Ambient PCB concentrations generally increase with increasing temperature above approximately 50°F to 60°F.
- The detection limits for the low-volume sampling methods were too high to provide definitive data.

7.3 EPA Supplemental Investigation Air Monitoring Activities (1999)

EPA conducted ambient air sampling downstream of the Confluence as part of its investigations. Two locations were selected for air sampling: one location across from the Decker Canoe Launch on the DeVos property (H3-AR000003) and the other at an access area off October Mountain Road upstream of Woods Pond (H3-AR000004). The two air sampling locations are shown on Figure 7-1. The original goals of the program, as described in the SI Work Plan (Weston, 2000), were to collect 40 air samples for analysis of both particulate and volatile PCB Aroclors over four seasons (two locations sampled on five consecutive days over four seasons, i.e., spring, summer, fall, and winter). The SI Work Plan proposed that the data collected during the first two seasons of the field program (spring and summer) be evaluated and used to determine whether or not to modify or terminate the remaining two seasons of the sample collection program.

Two air sampling events were conducted, one in April 1999 and another in July 1999, resulting in the collection of a total of 30 PCB Aroclor samples. Sixteen air samples were collected from the Decker Canoe Launch station in Reach 5B (location H3-AR000003 on Figure 7-1), and 14 samples were collected from the air sampling station upstream of Woods Pond in Reach 5C (location H3-AR000004 on Figure 7-1). The 30 air samples were analyzed for individual PCB Aroclors. PCBs were not measured in

any of the 30 samples above the quantitation limit for the individual PCB Aroclors (approximately 3 $\mu g/m^3$). As noted in EPA's SI Data Report (Weston 2002), EPA terminated the air monitoring investigation early due to the absence of PCBs in the samples.

The results of this program confirm that, due to their low volatility, PCB concentrations in the ambient air are not a significant concern in the Rest of River area.

Section 7 Figure

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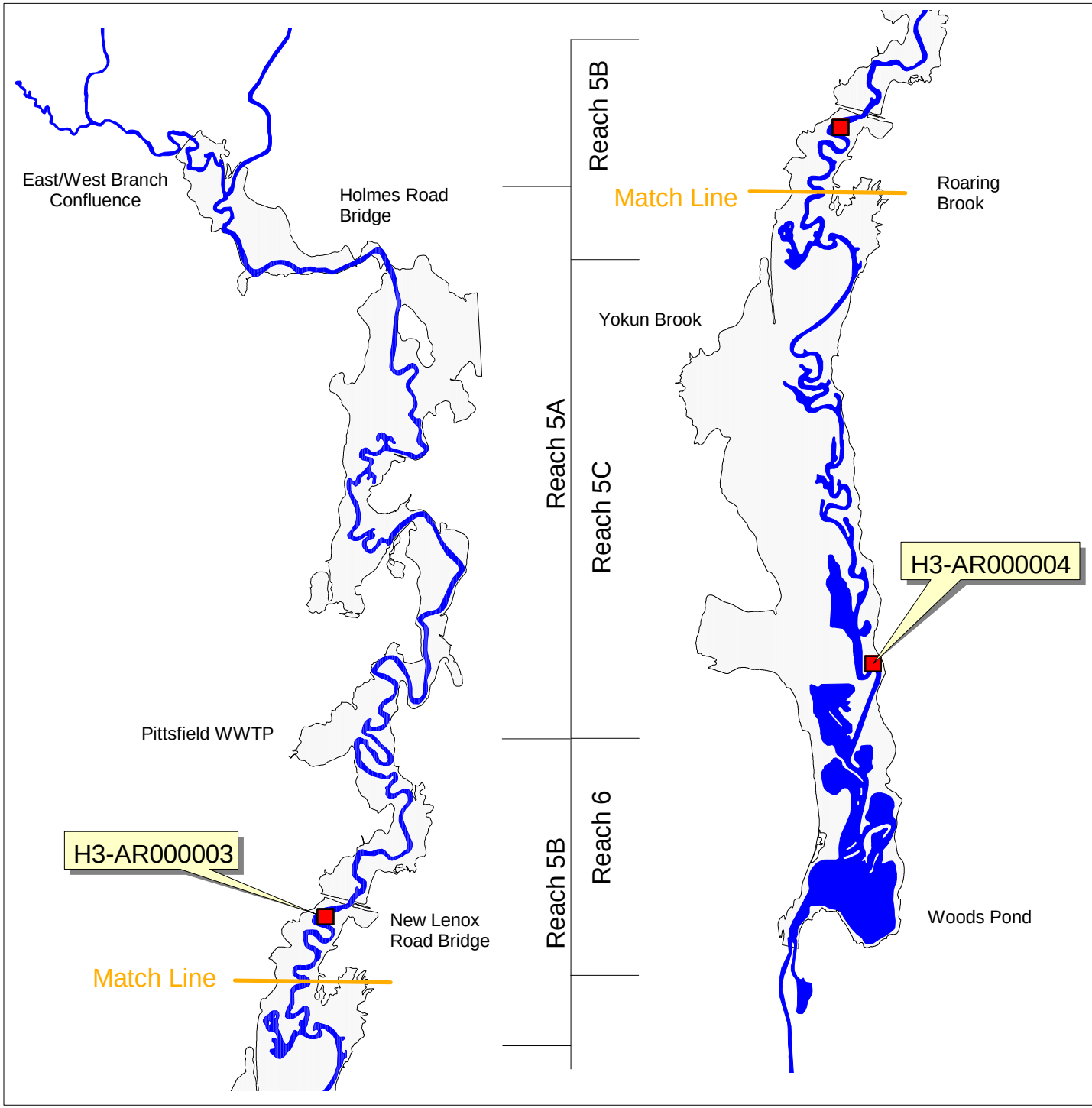

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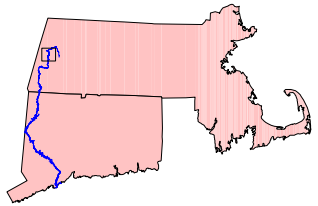
LOCATOR MAP



SCALE

500 0 500 Meters

LEGEND

- Air Sampling Locations
- River Main Channel
- 10 Year Floodplain

Figure 7-1.

EPA Air Sampling Locations

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